REMARKS

The Examiner has rejected claims 1-18 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. For example, it is unclear, the Examiner alleges, what the word "system" in claim 1, line 10 is referring to which system (whether it is referring to the system mentioned in the preamble or the dynamic resource allocation system).

Applicants gratefully acknowledge this observation by the Examiner and have, in accordance with the Examiner's suggestions, amended the claims to clearly indicate that the system in claim 1, line 10 refers to the dynamic resource allocation system and not to the general reference to system in the first line of claim 1. Having done so, Applicants respectfully submit this ground of rejection under 35 U.S.C. 112, second paragraph, has been obviated.

The Examiner has rejected claims 1-18 under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. Applicants' attention is directed to MPEP § 2172.01. The Examiner contends that the omitted structural cooperative relationships are: there is not any structural relationship between the preamble and the core of the claim.

Applicants respectfully contend that no essential structural cooperative relationship of elements comprising a gap is in evidence in claim 1 between the necessary structural connections as contended by the Examiner. Applicants respectfully submit there is structural relationship between the preamble and the core of the claim. Applicants respectfully contend the preamble of the claim clearly calls out a gateway, an Internet service provider or corporate network, a local area network edge, a satellite, one or more personal computers, a dynamic resource allocation system that supports differentiated services comprising three elements: an Internet protocol network, a classifier and a dynamic assignment/multiple access (DAMA) as recited in the claims.

MPEP § 2172.01 states "It is not essential to a patentable combination that there be interdependency between the elements of the claimed device or that all the elements operate concurrently toward the desired result", citing *Ex parte Nolden*, 149 USPQ 378, 380 (Bd. Pat. App. 1965). Further, the recited MPEP section states that a claim does not necessarily fail to comply with 35 U.S.C. 112, second paragraph, where the various elements do not function simultaneously, are not directly functionally related, do not directly intercooperate, and/or serve independent purposes.

It is Applicants' position that the preamble sets out the essential elements of the claim and that after the transitional comprising, the dynamic resource allocation system is

defined. All necessary elements are present and are seen to structurally cooperate so as to enable one of ordinary skill in the art to practice the invention.

Applicants note that the Examiner alleges that the claimed language is broad and have been rejected as best understood by the Examiner. Applicants gratefully acknowledge that the Examiner has tried his best in the previous Office Action to apply prior art to address the claims and he now states that he realizes that the claim language is not clear to the Examiner to apply the best art possible.

Applicants gratefully acknowledge the Examiner's comments with regard to 35 U.S.C. 102(e) and the changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 which the Examiner states do not apply when the reference is a U. S. patent resulting directly or indirectly from an international application filed before November 29, 2000. The Examiner thereafter states that the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

The Examiner has rejected claims 1-3, 5, 7 and 12-18 under 35 U.S.C. 102(e) as being anticipated by Reichman et al U. S. 6,240,073.

The Examiner contends that Reichman teaches the invention as claimed including reverse link for satellite communication network (see abstract).

The Examiner states as to claim 1, Reichman teaches a system that comprises a gateway that interfaces to an Internet provider or corporate network, a local area network edge device, a satellite that provides a communication link between the gateway and the local area network edge device, and one or more personal computers coupled by way of a network to the local area network edge device, a dynamic resource allocation system that supports differentiated services with different levels of priority, comprising:

an Internet protocol network (col. 10, lines 47-50; col. 1, lines 29-30) that comprises:

a classifier for identifying specific types of messages (col. 15, lines 9-12), Reichman discloses a classifier that classifies data received into three different types of messages (i.e. messages is identified before it is classified in types);

a dynamic assignment/multiple access (DAMA) communication protocol for transmitting data over the system (col. 10, lines 16-20; col. 3, lines 5-10).

Applicants respectfully submit that in Reichman at col. 10, lines 47-50 there is disclosed "The user transmits messages using any suitable protocol such as the TCP/IP protocol format. For illustrative purposes, the transmitter method is presented using the TCP protocol as an example."

Applicants respectfully submit that in Reichman at col. 1, lines 29-30 it is stated "At the same time, the number of Intranets (Internet network protocols applied within an enterprise or company for sharing information) are growing at an even faster rate."

Applicants respectfully acknowledge at the above-recited portions of Reichman as stated at col. 4, lines 46-48 "The reverse link described herein is suitable for use in any type of communications network such as networks used for Internet access purposes."

Applicants respectfully submit at col. 15, lines 9-12 it is stated "In general, the transmitter comprises a user interface and a message classifier. The data received from the user is divided or classified into three different types of messages, as described previously."

Applicants respectfully submit that although they do not necessarily agree that the reverse link transmitter which "comprises a user interface and a message classifier. The data received from the user is divided or classified into three different types of messages, as described previously.", teaches the classifier for identifying specific types of messages in element 2 of claim 1, the combination of this classifier, the Internet protocol does not disclose, teach or imply the combination as set out in the claims which call for a dynamic assignment/multiple access (DAMA) communication protocol for transmitting data over the dynamic resource allocation system employed in claim 1, which additionally includes a gateway and a local area network edge absent in Reichman.

Applicants respectfully submit at col. 3, lines 5-10 it is disclosed "In such systems it may be desirable to assign channel capacity to users on demand by means of a demand assigned multiple access (DAMA) architecture. In a DAMA system a separate channel called the request channel is used by individual users to request capacity as needed."

Applicants respectfully submit that although they do not necessarily agree that the DAMA system as set out in Reichman teaches, suggests or implies "a dynamic assignment/multiple access communication protocol for transmitting data over the dynamic resource allocation system", nevertheless, Applicants respectfully contend that this DAMA is not stated to be incorporated in a dynamic resource allocation system that supports differentiated services with different levels of priority which is further employed in the system that includes a gateway, an Internet service provider or corporate network, a local area network edge device, a satellite edge device, and one or more personal computers as set out in claim 1.

The Examiner states as to claims 2 and 3, Reichman teaches the dynamic resources allocation system recited in claims 1 and 2, respectively, wherein the satellite is a non-processing satellite, and a bent pipe communication link between the local area network edge device and the gateway (col. 8, lines 39-43; col. 3, line 63 to col. 4, line 7, Reichman discloses a satellite communication providing point to point channels or

broadcast, and the reverse link with the forward link forming a complete two way communication system (i.e., the satellite is used as a relay to between the two networks, and between the VSAT's and the earth stations)).

Applicants respectfully submit that at col. 3, line 63 to col. 4, line 7 there is merely indicated that the network in said invention can comprise VSATs in such a network which transmit data in packets to the hub station using multiple access capability of the satellite channel. Applicants respectfully contend in that disclosure, as well as in col. 8, lines 39-43 which sets out the forward link can comprise any well known communication scheme suitable for uses as the forward link in a satellite communication system, there is not taught a non-processing satellite or is same specifically set out. Furthermore, Applicants respectfully contend there is no where mentioned, as set out in claim 3, that the non-processing satellite implements a bent pipe communications link between the local area network edge device and the gateway. Furthermore, Applicants respectfully contend that claims 2 and 3 are patentably distinguishable over Reichman for reasons set out above with regard to claim 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claim 5, Reichman teaches the dynamic resources allocation system recited in claim 1 wherein there is a DAMA communication protocol comprises an application detection algorithm (figure 13, item 306).

Applicants respectfully contend that item 306 of figure 13 is described in said reference as "Fig. 13 is a high level flow diagram illustrating the synchronization receiver method of the present invention." Applicants respectfully contend that in figure 13, item 306 is stated to be "user information detection." Applicants respectfully submit that the only recitation that Applicants are able to find in the entire disclosure of Reichman is set out in col. 22, lines 7-9 "Subsequently, timing acquisition is then performed (step 304) followed by detection of the user information contained in the preamble (step 306)."

Applicants are at a loss to discern how in this disclosure and the accompanying figure there is disclosed an application detection algorithm as defined in claim 5 of the instant application. Furthermore, Applicants respectfully contend that claim 5 is patentably distinguishable over Reichman for reasons stated above with regard to claim 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claim 7, Reichman teaches the dynamic resource allocation system recited in claim 1 wherein the DAMA communication protocol comprises a resource request that generates a resource request to set required resources (col. 11, lines 12-15; col. 7, lines 11-13).

Applicants respectfully contend that at col. 7, lines 11-13 there is set out "Further, each user terminal comprises means for generating a request to be sent over the return communications link in order to utilize the second communication means." And at col. 11,

lines 12-15 there is set out "In accordance with these above criteria a request is made to allocate a CA channel by sending a Request For Allocation message. The request also includes a specific requested data rate." Applicants respectfully submit that although they do not necessarily agree that at the recited portions of Reichman relied upon by the Examiner there is taught "the DAMA communication protocol comprises a resource request that generates a resource request to set required resources" as set out in claim 7, nevertheless, claim 7 has been shown to be patentably distinguishable over Reichman for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claim 12, Reichman teaches the dynamic resource allocation system recited in claim 1 wherein the DAMA communication protocol comprises three modes, including fixed assignment, reservation assignment, and random assignment modes (col. 10, lines 30-32, Reichman discloses two modes of operation: random access and channel assignment mode (i.e., in which includes fixed assignment mode and reservation assignment mode); col. 15, lines 48-50; col. 3, lines 2-29; col. 3, lines 57-59).

Applicants respectfully submit that at col. 15, lines 48-50 there is set out "In the channel assignment mode, the frequency is fixed during the transmission within a frequency band dedicated for this mode."; at col. 3, lines 2-29 there is set out at lines 24 et seq. "a request channel architecture based upon a random access technique which allows for the possibility of a small subset of active transmitters selected from a much larger set of potential transmitters"; and at col. 3, lines 57-59 there is disclosed "Each station transmits a reservation packet on a random access basis requesting slots needed for data packet transmission."

Applicants respectfully submit that no where in the recited three passages of Reichman is there to be found "the DAMA communication protocol comprises three modes, including fixed assignment, reservation assignment, and random assignment modes" as required by claim 12. Applicants respectfully disagree that the fixed frequency recited at col. 15, lines 48-50, the random access technique referred to at col. 3, line 25 and the reservation packet described at col. 3, lines 57-59 teach, suggest or imply "the DAMA communication protocol comprises three modes, including fixed assignment, reservation assignment, and random assignment modes" as required in claim 12. Furthermore, Applicants respectfully disagree with the Examiner's position that Reichman discloses two modes of operation: random access and channel assignment mode that is, according to the Examiner, which includes fixed assignment mode and reservation assignment mode. The teaching of the fixed reservation and random assignment modes as required in claim 12 employed by the DAMA communication protocol is no where to be found as recited in claim 12 in Reichman. Furthermore, Applicants respectfully submit that claim 12 has been

shown to be patentably distinguishable over Reichman for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claim 13, Reichman teaches the dynamic resource allocation system recited in claim 12 wherein, in the fixed assignment mode, a certain amount of bandwidth is allocated for the highest priority users (col. 10, lines 38-41; col. 15, lines 35-42).

Applicants respectfully submit that at col. 10, lines 38-41 there is disclosed from lines 35-40 "After communications have begun, the system decides whether to continue in random access mode such as when the user is browsing, for example, or whether to assign a channel with optimal bandwidth in accordance with the users application, e.g., video conferencing or Internet phone applications." At col. 15, lines 35-42 there is disclosed "The combined stream of data is divided into smaller bursts wherein each burst is transmitted at a specific time and frequency. This method can be classified as a CDMA type of multiple access scheme since many users are transmitting simultaneously in the same frequency band but using different sequences of frequencies and timing for the transmission bursts." Applicants respectfully submit that in neither recitation of Reichman is there taught, suggested or disclosed, as set out in claim 13, "wherein, in the fixed assignment mode, a certain amount of bandwidth is allocated for the highest priority users." Furthermore, at the recited passages, there is no mention of allocating bandwidth for highest priority users as required in claim 13 and, in addition, claim 13 has been shown to be patentably distinguishable over Reichman for reasons recited above with regard to claims 12 and 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claim 14, Reichman teaches the dynamic resource allocation system recited in claim 12 wherein, in the reserved assignment mode, reservation bandwidth is allocated for users to request their demand without knowledge of others request transmissions (col. 14, lines 52-55; col. 3, lines 1-5).

Applicants respectfully submit at col. 14, lines 52-55 there is disclosed "In an FDMA system, not all the users are required to use the same amount of bandwidth. A system with flexible bandwidth allocated adapted to the needs of the user and assigned on demand is called a bandwidth on demand (BOD) system." Applicants respectfully submit at col. 3, lines 1-5 there is disclosed "In the typical modern interactive network, however, the traffic from individual terminals in the system varies as a function of time due to random traffic demands by different users at each terminal. In addition, the set of terminals active in the network can vary from moment to moment." Applicants respectfully submit in neither recitation is there taught a dynamic resource allocation system wherein the DAMA communication protocol comprises three modes, including fixed assignment, reservation assignment, and random assignment modes and wherein, in the fixed assignment mode, a

certain amount of bandwidth is allocated for the highest priority users and wherein, in the reservation assignment mode, reservation bandwidth is allocated for users to request their demand without knowledge of others request transmissions as required by claims 12, 13 and 14. Furthermore, Applicants respectfully contend that claim 14 has been shown to be patentably distinguishable over Reichman for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claim 15, Reichman teaches the dynamic resource allocation system recited in claim 12 wherein, in the random access mode, users transmit the data without making reservation (col. 4, lines 58-61).

Applicants respectfully submit that at col. 4, lines 58-61 there is disclosed "Data generated by a user is transmitted utilizing one of the two communication schemes in accordance with the content and amount of data generated." Applicants respectfully contend that no where in the recited passage of Reichman is there taught that users transmit the data without making reservations as required in claim 15 and, furthermore, claim 15 is patentably distinguishable over Reichman for reasons recited above with regard to claims 12 and 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claim 16, Reichman teaches the dynamic resource allocation system recited in claim 1 wherein the DAMA communication protocol comprises a collision resolution algorithm (col. 5, lines 60-64; col. 3, lines 41-43).

Applicants respectfully submit that at col. 3, lines 41-43 there is disclosed "When a collision occurs each station waits a random period of time before attempting to gain access to the channel again." and at col. 5, lines 60-64 there is disclosed "In addition, the hub comprises collision detection means for determining when two frequency hops associated with two independent receivers are utilizing the same frequency at the same time, thus improving decoding within the receiver means." Applicants respectfully submit that the two recitations collectively do not teach, suggest or imply a DAMA communication protocol comprises a collision resolution algorithm as required in claim 16 and, furthermore, claim 16 has been shown to be patentably distinguishable over Reichman for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claim 17, Reichman teaches the boundary between the random assignment mode and the reservation mode is movable in order to reduce the number of collisions whenever there are more best effort users using the system (col. 3, lines 54-62).

Applicants respectfully contend that at col. 3, lines 54-62 a slot reservation scheme is proposed to reduce the effects of collisions in the slotted ALOHA system wherein if the request is granted, data slots of a subsequent frame are assigned to the requesting station.

Applicants respectfully submit that the recited passage does not teach, suggest or imply a dynamic resource allocation system recited in claim 12 wherein the boundary between the random assignment mode and the reservation mode is movable in order to reduce the number of collisions whenever there are more best effort users using the system as required by claim 17. Moreover, Applicants respectfully contend that there is no recitation in Reichman as to moving the boundary between the random mode and the reservation mode in order to reduce such collisions and no recitation doing so whenever there are more best effort users using the system as required in claim 17. Furthermore, Applicants respectfully submit that claim 17 has been shown to be patentably distinguishable over Reichman for reasons recited above with regard to claims 12 and 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claim 18, Reichman teaches the dynamic resource allocation system recited in claim 1 wherein the DAMA communication protocol comprises a bandwidth request algorithm, a connection acceptance algorithm, a bandwidth usage detection algorithm, and a resource assignment algorithm (figure 13).

Applicants respectfully submit that in figure 13 and accompanying disclosure setting out the elements of sync receiver signal present, performed frequency acquisition, performed timing acquisition, user information detection and transfer information to hub controller there is neither taught, suggested or implied "The dynamic resource allocation system recited in claim 1 wherein the DAMA communication protocol comprises a bandwidth request algorithm, a connection acceptance algorithm, a bandwidth usage detection algorithm, and a resource assignment algorithm" as required by claim 18. Furthermore, Applicants respectfully contend that what appears to be the only recited passage relating to figure 13 there is generally described that once a signal is detected, a frequency acquisition is then performed and, subsequently, timing acquisition is then performed, followed by detection of the user information contained in the preamble...next the user information is transferred to the hub controller...once an SA receiver receives a preamble correctly, control is transferred to one of the RA frequency hopping receivers.

Applicants do not discern in any manner that the pertinent limitations of claim 18 as set out above are in any way taught, suggested or implied by this recitation in Reichman relied upon by the Examiner.

Furthermore, claim 18 has been seen to be patentably distinguishable over Reichman for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

The Examiner has rejected claims 4, 6, 8 and 10 under 35 U.S.C. 103(a) as being unpatentable over Reichman et al U. S. 6,240,073 in view of Connors U. S. 6,449,267.

The Examiner alleges that Reichman teaches the invention substantially as claimed including reverse link for satellite communication network (see abstract).

The Examiner states as to claim 4, Reichman teaches the dynamic resources allocation system recited in claim 1 but fails to teach the satellite is a processing satellite comprising an onboard resource management element.

However, the Examiner goes on to state, that Connors teaches the satellite is a processing satellite comprising an onboard resource management element, citing col. 2, lines 62-64, Connors discloses in a satellite network 100, the AA 108 resides at the satellite (since the AA 108 performs bandwidth allocation, when it is resided in the satellite, then it is a "processing satellite").

The Examiner goes on to conclude that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify in view of Connors to provide a processing satellite comprising an onboard resource management element and that one would be motivated to do so to allow protection of resource allocation from earth disaster.

Applicants respectfully submit that Connors is directed to a method of communicating input data from a first node to a second node via a communication link having a plurality of resource units, including the steps of transmitting a resource request having a resource metric from the first node to an allocating agent; receiving an allocation of resource units according to the resource metric, the resource units comprising at least one demand assigned multiple access (DAMA) resource unit and at least one random access (RA) resource unit; queuing the input data into a DAMA channel buffer; and dequeuing the input data from the DAMA channel buffer to an RA channel buffer according to a comparison between a predicted transmission delay and a delay threshold.

Applicants respectfully submit that Reichman does not teach the invention substantially as claimed, including reverse link for satellite communication network, in the abstract or elsewhere and, furthermore, does not teach the dynamic resources allocation system recited in claim 1 for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference. Applicants gratefully acknowledge, as the Examiner admits, that Reichman does not teach a processing satellite comprising an onboard resource management element. Furthermore, Applicants respectfully contend that at col. 2, lines 62-64 in Connors the allocating agent AA 108 which performs bandwidth allocations is stated to reside either at the satellite or at a terrestrial master control station which does little to cure the deficiencies as stated above with regard to Reichman and specifically does not teach, suggest or imply the dynamic resource allocation system as recited in claim 1.

The Examiner states as to claim 6, Reichman teaches the dynamic resource allocation system recited in claim 1 but that Reichman fails to teach explicitly the DAMA

communication protocol comprises a resource requirement estimation algorithm that is based on queue statistics versus performance statistics.

However, it is the Examiner's position that Connors teaches the DAMA communication protocol comprises a resource requirement estimation algorithm that is based on queue statistics versus performance statistics, citing col. 12, lines 1-6, wherein the Examiner contends Connors discloses the channel selection module...and the random access queue...to form delay estimates of the last packet in each queue.

The Examiner concludes it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Reichman in view of Connors to provide the DAMA communication protocol comprising a resource requirement estimation algorithm that is based on queue statistics versus performance statistics and that one would be motivated to do so to allow a comparison between a predicted transmission delay and a delay threshold, citing the abstract.

Applicants respectfully submit that in Connors at col. 12, lines 1-6 there is disclosed "The channel selection module 810 uses the PFRM from the packet flow measurement module 804 and the size of the DAMA queue (DQ) in the DAMA channel buffer 810 and the random access queue (RAQ) in the RA channel buffer 818 to form delay estimates of the last packet in each queue."

Applicants respectfully submit that the DAMA channel buffer and the random access queue as recited in this portion of Connors does not teach, suggest or imply the dynamic resource allocation system recited in claim 1 wherein the DAMA communication protocol comprises a resource requirement estimation algorithm that is based on queue statistics versus performance statistics. Moreover, Applicants respectfully submit that the resource requirement estimation algorithm based on queue statistics versus performance statistics is no where to be found in said reference.

Furthermore, Applicants respectfully submit that, aside from both Reichman and Connors reciting in the broad technology of satellite communications, there would be no motivation for one of ordinary skill in the art to combine the references in the manner suggested by the Examiner to reject the instant claims and, furthermore, there is no suggestion in either reference as to such a combination.

Therefore, Applicants respectfully disagree that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Reichman in view of Connors to provide the DAMA communication protocol comprising a resource requirement estimation algorithm that is based on queue statistics versus performance statistics and that one would be motivated to do so to allow a comparison between a predicted transmission delay and a delay threshold as contended by the Examiner.

The Examiner states as to claim 8, Reichman teaches the dynamic resource allocation system recited in claim 1 but fails to teach explicitly the DAMA communication protocol comprises a resource request that sends raw queue statistics to the gateway to set required resources.

However, the Examiner further reasons that Connors teaches the DAMA communication protocol comprises a resource request that sends raw queue statistics to the gateway to set required resources (col. 4, lines 60-67, Connors discloses the apparatus comprises...a DAMA channel buffer...the resource unit request module for generating a resource request metric when indicated by an information rate of the input data, an for receiving an allocation or resource units via a receiver...for dequeuing input data from the DAMA; col. 11, lines 14-16, Connors discloses Fig. 8 shows block diagram of a first node 112 such as an earth station 104 employing the technique of dequeuing data from the DAMA queue to the RA queue).

The Examiner therefore concludes it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Reichman in view of Connors to provide the DAMA communication protocol comprises a resource request that sends raw queue statistics to the gateway to set required resources. One would be motivated to do so to allow a comparison between a predicted transmission delay and a delay threshold (abstract).

Applicants respectfully contend that at col. 4, lines 60-67 of Connors there is disclosed "The apparatus comprises a receiver for receiving input data, a DAMA channel buffer for accepting the input data, a resource unit request module, operatively coupled to the transmitter and the receiver, the resource unit request module for generating a resource request metric when indicated by an information rate of the input data, and for receiving an allocation of resource units via the receiver, and a channel selection module, for dequeuing input data from the DAMA channel buffer to an RA channel buffer according to a predicted channel delay and a delay threshold."

Furthermore, at col. 11, lines 14-16 of Connors Applicants respectfully contend there is disclosed "Fig. 8 shows block diagram of a first node 112 such as an earth station 104 employing the technique of dequeuing data from the DAMA queue to the RA queue."

Applicants respectfully submit, in addition to failing to teach the DAMA communication protocol in the instant claims as admitted by the Examiner, that Connors at col. 4, lines 60-67, col. 11, lines 14-16, and in Fig. 8 does little to cure the deficiencies of the instant rejection.

Furthermore, Applicants respectfully submit that claim 8 has been shown to be patentably distinguishable over Reichman and Connors, in addition to these distinctions, for

the reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

Accordingly, Applicants respectfully disagree that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Reichman in view of Connors to provide the DAMA communication protocol comprising a resource request that sends raw queue statistics to the gateway to set required resources and that one would be motivated to do so to allow a comparison between a predicted transmission delay and a delay threshold.

The Examiner states as to claim 10, Reichman teaches the dynamic resource allocation system recited in claim 1 but that Reichman fails to teach explicitly the gateway comprises an algorithm that accumulates all requests received at the same time.

However, the Examiner contends that Connors teaches an algorithm that accumulates all requests received at the same time (col. 9, lines 58-62, Connors discloses the measured size of the received data packets is accumulated over time window Tc, as shown in 608, wherein the time window Tc is determined...).

The Examiner concludes it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Reichman in view of Connors to provide the gateway comprises an algorithm that accumulates all requests received at the same time and that one would be motivated to do so to allow monitoring each request.

Applicants respectfully submit that at col. 9, lines 58-62 there is merely disclosed, as alluded to by the Examiner, "the measured size of the received data packets is accumulated over time window Tc."

Applicants respectfully submit that no where is "The dynamic resource allocation system recited in claim 1 wherein the gateway comprises an algorithm that accumulates all requests received at substantially the same time." as required by claim 10. The combination of Reichman and Connors, as suggested by the Examiner with regard to this claim and all the claims, is tenuous at best since there is absolutely no suggestion or implication that would motivate one of ordinary skill in the art to combine these references in the manner suggested by the Examiner.

Furthermore, Applicants respectfully conclude that claim 10 has been shown to be patentably distinguishable over Reichman and Connors for these reasons and those recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

Accordingly, Applicants respectfully disagree with the Examiner that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Reichman in view of Connors to provide the gateway comprises an algorithm that accumulates all requests received at the same time and that one would be motivated to do so to allow monitoring each request.

The Examiner has rejected claims 9 and 11 under 35 U.S.C. 103(a) as being unpatentable over Reichman et al U. S. 6,240,073 in view of Baker et al 6,775,231.

The Examiner states that Reichman teaches the invention substantially as claimed including reverse link for satellite communication network (see abstract).

The Examiner states as to claim 9, Reichman teaches the dynamic resource allocation system recited in claim 1.

The Examiner thereafter admits that Reichman fails to teach the DAMA communication protocol comprises a weighted fair queuing algorithm that performs a weighted fair queuing that drains the queues while effectively utilizing the gateway assigned resources.

However, the Examiner contends that Baker teaches a weighted fair queuing algorithm (Fig. 3, col. 1, lines 54-60, Baker discloses it is known to support prioritization among different traffic sources or different classes by using queuing techniques such as Weighted Fair Queuing (WFQ), or Weighted Round-Robin (WRR) queuing. According to the Examiner, these techniques involve dividing traffic among multiple queues and allocating limited packet forwarding bandwidth among the queues according to weights assigned to each queue).

The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Connors in view of Baker to provide the DAMA communication protocol comprises a weighted fair queuing algorithm that performs a weighted fair queuing that drains the queues while effectively utilizing the gateway assigned resources and one would have been motivated to do so to allow prioritization among different traffic sources or different classes (col. 1, lines 54-55).

Applicants respectfully submit that in Fig. 3 and at col. 1, lines 54-60 of Baker there is merely disclosed queuing techniques such as Weighted Fair Queuing (WFQ) or Weighted Round-Robin (WRR) queuing and, although Applicants do not necessarily agree that this teaches, suggests or implies a weight fair queuing algorithm as defined in claim 9, Applicants respectfully submit there is absolutely no suggestion or implication that there would be a motivation for one skilled in the art to combine Baker with Reichman in the manner suggested by the Examiner and, furthermore, if done, claim 9 would not be rendered obvious under 35 U.S.C. 103(a).

Applicants respectfully contend that the recitation at col. 1, lines 54-55, related generally to the Baker system of accommodating a mix of traffic including voice, video and electronic commerce data, does little to cure this deficiency.

Furthermore, claim 9 has been shown to be patentably distinguishable over Reichman and Baker for these reasons and those recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claim 11, Reichman teaches the dynamic resource allocation system recited in claim 1 but readily admits that Reichman fails to teach explicitly the gateway comprises an algorithm that functions to assign each edge device a time and frequency resources based upon service classes and consumer profile for each current and previous request.

However, the Examiner contends that Baker teaches the gateway comprises an algorithm that functions to assign each edge device a time and frequency resources based upon service classes and consumer profile for each current and previous request (col. 1, lines 49-54, Baker discloses to support a Differential Services model such as Assured Forwarding, a network node internal to the service provider network must operate packet schedulers for each of its output interfaces to ensure that each class to be output via the interface receives service corresponding to its defined per hop behavior; col. 4, lines 56-61, Baker discloses Network 200 represents a Differentiated Services domain. Edge nodes 202 classify incoming traffic into one or a plurality of behavior aggregates. In one embodiment, network 200 implements an Assured Forwarding service and edge nodes 202 classify packets to be forwarded into network 200 into one of four service classes; see abstract).

Therefore, the Examiner concludes it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Connors in view of Baker to provide the gateway comprises an algorithm that functions to assign each edge device a time and frequency resources based upon service classes and consumer profile for each current and previous request and that one would be motivated to do so to allow a differentiated service model achieved (abstract).

Applicants respectfully submit that in Baker, at col. 1, lines 49-54 there is merely disclosed "To support a Differential Services model such as Assured Forwarding, a network node internal to the service provider network must operate packet schedulers for each of its output interfaces to ensure that each class to be output via the interface receives service corresponding to its defined per hop behavior."

Applicants respectfully contend that at col. 4, lines 56-61 there is a similar recitation as follows: "Network 200 represents a Differentiated Services domain. Edge nodes 202 classify incoming traffic into one of a plurality of behavior aggregates. In one embodiment, network 200 implements an Assured Forwarding service and edge nodes 202 classify packets to be forwarded into network 200 into one of four service classes."

Applicants respectfully contend in neither of col. 1, lines 49-54 nor in col. 4, lines 56-61 is there implied, taught or suggested the dynamic resource allocation system recited in claim 1 wherein the gateway comprises an algorithm that functions to assign each edge

device a time and frequency resources based upon services classes and consumer profile for each current and previous request.

Applicants respectfully point out, in addition to the conspicuous absence of the dynamic resource allocation system recited in claim 1, there is no disclosure of the gateway in either reference; further, there is no teaching of an algorithm nor any mention "to assign each edge device a time and frequency resources based upon services classes and consumer profile for each current and previous request" as explicitly set out in claim 11.

Furthermore, claim 11 has been shown to be patentably distinguishable over Reichman and in view of Baker for these reasons in addition to those recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

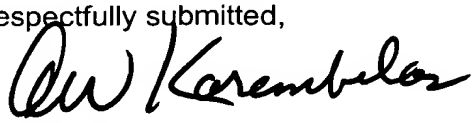
Applicants' arguments with respect to the improper joinder of Reichman with Baker also apply as previously recited.

Accordingly, Applicants respectfully disagree that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Connors in view of Baker to provide the gateway comprises an algorithm that functions to assign each edge device a time and frequency resources based upon service classes and consumer profile for each current and previous request and that one would be motivated to do so to allow a differentiated service model achieved.

Applicants respectfully submit that in view of the above remarks and amendments, all the claims presently under prosecution have been shown to contain patentable subject matter and to be patentably distinguishable over the prior art of record, Reichman, Connors and Baker, alone or in any combination.

Accordingly, Applicants respectfully request that this application be reviewed and reconsidered in view of the above remarks and amendments and that a Notice of Allowance be issued at an early date.

Respectfully submitted,



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